

Remarks

Claim 79 has been amended, new claim 99 has been added leaving claims 79-89 and 99 pending and claims 90-98 withdrawn. Claims 79-89 have been rejected as obvious in view of US Patent 6,326,616 to Andrien ('616 reference) alone and in various combinations with US Patent 4,028,617 to Kamo, US Patent 4,458,153 to Wesley, US Patent 5,081,397 to Liang, and US Patent 6,407,382 to Spangler. Applicant requests reconsideration of such rejections in view of the following remarks.

Claim 79 has been amended for clerical reasons only and not for the purposes of obtaining patentability. Claim 79 recites an ionization source that includes a sample inlet and an electrically conductive conduit coupled to the sample inlet. Claim 79 also recites that the conduit has a first end and a second end with the first end configured to receive a sample from the sample inlet and the second end configured to discharge the sample from the conduit. Claim 79 continues by reciting an electrically conductive reference device positioned proximate the second end of the conduit with the reference device and the conduit having an ionization area therebetween. Claim 79 further recites the conduit and reference device configured to ionize at least a portion of the sample within the ionization area, and an ion analyzer configured to receive at least some of the portion of the sample.

The Examiner has directed Applicant to Fig. 1 of the '616 reference for the teaching of a sample inlet (9), an electrically conductive conduit (3 and 8) coupled to the sample inlet with the conduit comprising a first and second end configured to receive the sample from the sample inlet and discharge the sample from the sample conduit (referring Applicant to col. 6, line 39 - col. 7, line 4 and Fig. 1). The Office Action continues by reciting that the '616 reference also teaches an electrically conductive reference device (4) positioned proximate the second end of the conduit and a mass analyzer employed in the spectrometer. While admitting the '616 reference does not explicitly

teach ionization within an ionization area between the reference device and the conduit, the Examiner relies on a different component of a different apparatus to support the teaching that ionization must occur in the area between what the Examiner refers to as the reference device and conduit because a potential is applied to the reference device and the conduit. To further support this contention, the Office Action recites that the Applicant has admitted that ions are formed via electric fields from voltages applied to the reference device (4) and conduit (3/8) when referring Applicant to the arguments dated 11/15/04, page 6, paragraph 1. In so doing, the Examiner has ignored elements of the claims, construed the teachings of the '616 reference in an inoperable fashion, and completely mischaracterized the remarks of the Applicant to the extent that the rejection based on the '616 reference is improper and should be withdrawn.

In accordance with MPEP §706.02(j) three basic criteria must be met when establishing a rejection based on obviousness. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one ordinarily skilled in the art, to combine the reference teachings. Second, there must be a reasonable expectation of success and this expectation is not satisfied by what one might try, find obvious to try, or obvious to experiment. *In re Dow Chemical Co. v. American Cyanamid Co.*, 837 F. 2d at 471, 5 U.S.P.Q.2d at 1530. Third, the combined references must teach or suggest all of the limitations of the claims.

When establishing this criteria, the teachings of the references must be viewed as a whole and it is impermissible to pick and choose from any one reference only so much of it as will support a given position, to the exclusion of other parts necessary to the full appreciation of what such reference fairly suggests to one of ordinary skill in the art. *In re Wesslau*, 353 F.2d 238, 241, 147 U.S.P.Q. 391, 393 (C.C.P.A. 1965). Likewise, where a proposed modification of the reference, in an effort to attain the claimed invention, causes the art to become inoperable or destroys its intended

function, then the requisite motivation to make the modification does not exist. *In re Ratti*, 270 F.2d 810, 813, 123 U.S.P.Q. 349, 352 (C.C.P.A 1959).

Returning to the rejection, the Examiner has characterized opening 9, nosepiece 8, and endplate electrode 3 of Fig. 1 of the '616 reference as teaching a sample inlet (9) coupled to an electrically conductive conduit (3/8). A person of ordinary skill in the art of analytical instrumentation would not consider the opening 9, nosepiece 8, and endplate 3 of the '616 reference a sample inlet and electrically conductive conduit as the Examiner suggests for at least the reason that the '616 reference describes the apparatus of Fig. 1 as having inlets 28, 30, and 33 located outside the chamber (col. 7, lines 55-60). Characterizing opening 9 as an inlet in light of the express teaching of inlets 28, 30, and 33 amounts to improperly ignoring the teachings of the '616 reference as a whole and picking and choosing only so much that will support a given position. Therefore opening 9 of the '616 reference cannot be considered a sample inlet. As opening 9 cannot be construed to be a sample inlet, an interpretation that nosepiece 8 and endplate 3 are coupled to a sample inlet is improper for at least the reason that neither are coupled to inlets 28, 30, and 33.

The Examiner has also construed nosepiece 8 and endplate 3 to be a conduit having first and second ends, with the first end configured to receive sample from the sample inlet and the second end configured to discharge the sample from the conduit as recited in claim 79. Applicant can find no teaching of the combination of nosepiece 8 and endplate 3 having a second end configured to discharge sample as recited in claim 79. Referring to the express teachings of the '616 reference, endplate 3 extends along the length of capillary entrance electrode 4, and between endplate 3 and electrode 4 a bath gas 5 is provided to facilitate "sample," as referred to by the Examiner, into entrance orifice 11. This cannot be considered the discharge of sample from an end of either endplate 3 or nosepiece 8 as construed by the Examiner for at least the reason that "sample," as

referred to by the Examiner, is not discharged from an end of the combination of nosepiece 8 and endplate 3.

The Examiner then admits that the '616 reference does not explicitly teach ionization within an ionization area between what the Examiner refers to as an electrically conductive reference device 4 and the conduit (3/8). To support the teaching of these elements, the Examiner opines that these two components have different potentials and if they have different potentials ionization will result. First, the Examiner is requested to provide evidence that ionization results between component 4 and (3/8) as he has opined, for at least the reason that Applicant disagrees this is known in the art and no support for such an opinion has been offered. Second, the Examiner's interpretation of the '616 reference amounts to an improper modification that would destroy the function and/or render the apparatus of Fig. 1 inoperable. Recall, the '616 reference describes an electrospray ion source, ions are generated in ES chamber 7 and transported through orifice 11 for mass analysis. Components 4, 3, and 8 are configured to draw ions created in ES chamber 7 into orifice 11, not to create ions as the Examiner suggests. That component 4 of the '616 reference is configured to receive ions for mass analysis cannot be ignored in order to support the rejection. Were components 4, 3, and 8 to create ions as the Examiner suggests, component 4 would likely receive few if any ions for mass analysis. First, as the Examiner suggests, an electrical potential would be necessary between components 4 and 3/8, and this potential would create ions. However, the Examiner provides no reference or teaching for a component having an electrical potential that is also able to receive ions created by this electrical potential. Second, as the '616 reference teaches the apparatus of Fig. 1, bath gas 5 would likely remove the ions from the area between components 4 and 8 without ions entering through orifice 11 for analysis if components 4 and 3/8 were configured as the Examiner suggests. A mass analysis device without ions to analyze is an inoperable mass analysis device and, as modified by the

Examiner, the device of the '616 reference would be just such an inoperable device.

Further the Office Action recites the Applicant has admitted that ions are formed via electric fields from voltages applied to the reference device (4) and conduit (3/8) and refers Applicant to the arguments dated 11/15/04. Applicant has admitted no such thing and produced below is the paragraph of the argument referenced by the Examiner.

The structures of the Andrien reference, for example, are not configured as recited in claim 79. Andrien describes the formation of charged liquid droplets by Electrospraying the sample solution from probe tip 12 (Col. 6, lines 9-11). Andrien goes on to describe the formation of ions from these droplets and the driving of these ions and charged droplets to capillary entrance 11 via electric fields established from voltages applied to ES probe tip 12, cylindrical lens 2, endplate 3 with attached nosepiece 8, and capillary entrance electrode 4. (Id.) An interpretation of Andrien, that structures 3/8 and 4 are configured to ionize at least a portion of the sample as recited in claim 79, is neither taught or described by Andrien and further would render the teachings of Andrien useless as Andrien only describes the necessary formation of ions prior to being driven to these structures.

As the paragraph expressly recites "An interpretation of Andrien, that structures 3/8 and 4 are configured to ionize at least a portion of the sample as recited in claim 79, is neither taught or described by Andrien and further would render the teachings of Andrien useless as Andrien only describes the necessary formation of ions prior to being driven to these structures." To be clear, ionization within the area between device (4) and conduit (3/8) is not disclosed expressly or otherwise by the '616 reference, and for at least the reason these elements are neither taught nor suggested, the obviousness rejection should be withdrawn.

To summarize, the '616 reference neither teaches nor suggests an electrically conductive conduit coupled to a sample inlet with the conduit having a first end configured to receive a sample from the sample inlet and a second end configured to discharge the sample from the conduit. Nor does the '616 reference teach or suggest an ionization area between the conduit and a reference device. For at least the reason the cited references do not teach or suggest all the elements of claim

79, claim 79 is allowable.

Claims 80-89 and new claim 99 depend from claim 79 and are allowable for at least the reasons given above regarding claim 79 as well as their own patentable features. For example, claim 99 recites the source of claim 79 wherein the sample inlet is electrically insulated from the electrically conductive conduit. The cited references neither teach nor suggest this limitation.

Claims 79-89 and 99 are believed to be in immediate condition for allowance. Applicant requests allowance of these claims in Examiner's next action.

Respectfully submitted,

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